



**Filled &  
Reinforced  
Engineering  
Plastics**

**NIRUMAND POLYMER**

# About Us

Nirumand Polymer Knowledge-Based Company, received its establishment license in 1972 from the Ministry of Industries in Tehran, Iran. In the mid-90s, Nirumand Polymer started manufacturing industrial plastic parts and auto parts and in parallel, producing filled and reinforced engineering plastic materials for auto manufacturing sectors and other industrial units, which is the current focus of the company.

Through successfully implementing and establishing quality management systems, Nirumand Polymer maintains a customer-oriented system resulting in high customer satisfaction. The company has obtained certificates of quality management systems, including the ISOs below: ISO IEC 17025: 2005, ISO 9001: 2015, ISO IATF 16949: 2016, EFQM.



# Export

**Nirumand Polymer** has exported its products to eastern European countries such as **Russia** and **Romania** as well as the neighboring and Central Asian countries including **Turkey, Iraq, Kazakhstan, Armenia, Azerbaijan, Afghanistan, Turkmenistan, Pakistan, Uzbekistan, and Georgia.**

The company has been awarded as one of the top exporters of polymer materials by Iran National Plastic and Polymer Industries Association in 2021 and 2022.

The company's exports have tripled from 2017 to 2021, such that "Nirumand Polymer" trademark is recognized and popular among the consumers in our target exporting countries.

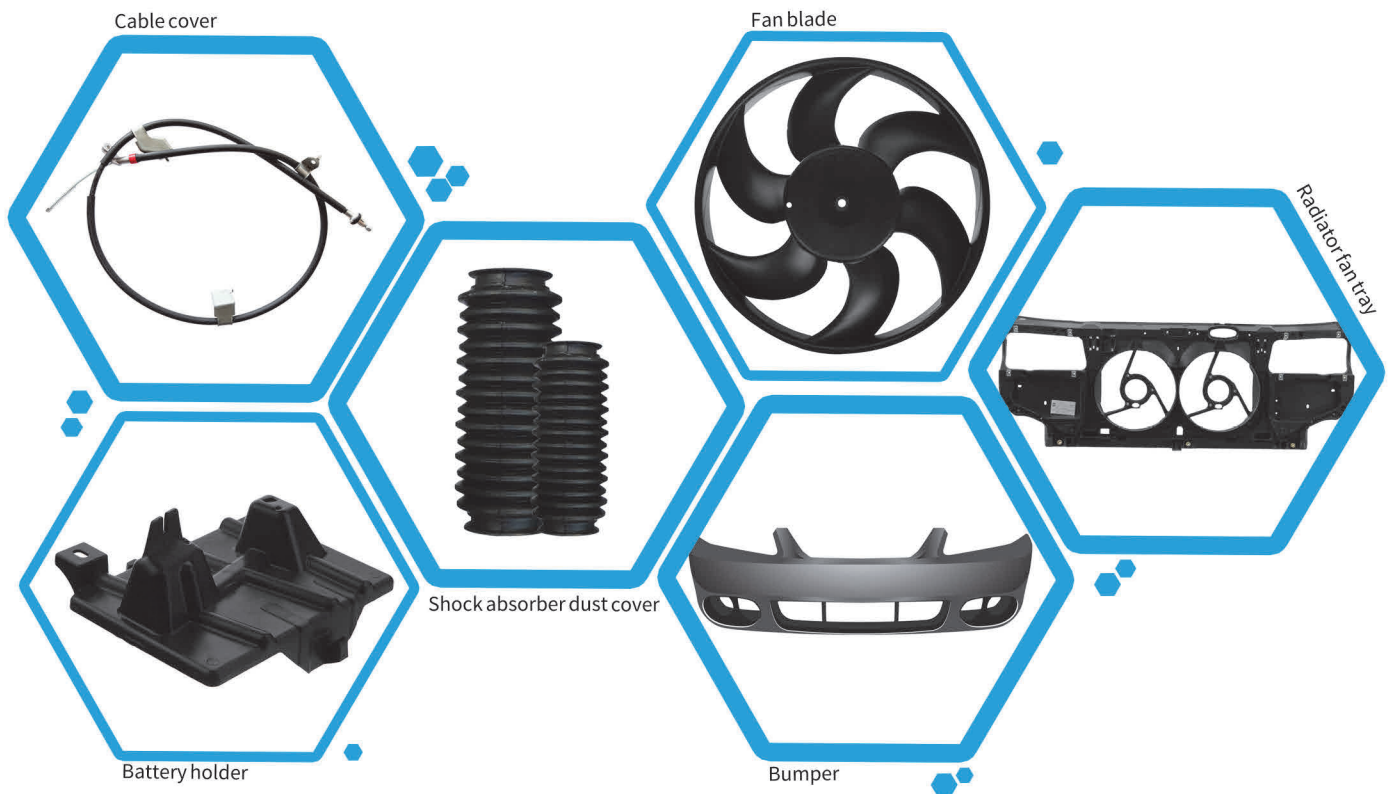
Nirumand Polymer Knowledge-based Company is capable of producing high-quality materials according to the customers' needs, by leveraging the knowledge and experience of its technical experts.



# PP Compound

**Polypropylene** filled or reinforced with various fillers, such as calcium carbonate, glass fiber, talcum, mineral powder and wollastonite. We can produce these compounds based on virgin or recycled materials according to the customers' demands.

Resin base	Grade	Application	Process	Properties & Advantages
Polypropylene (Homopolymer, Copolymer)	PP + GF From 10% to 50 %	<ul style="list-style-type: none"> <li>• Automotive industry</li> <li>• Electrical parts</li> <li>• Construction parts</li> <li>• Housewares</li> <li>• Pipe industry</li> <li>• Office furniture</li> </ul>	<ul style="list-style-type: none"> <li>• Injection</li> <li>• Extrusion</li> </ul>	<ul style="list-style-type: none"> <li>• High tensile strength .</li> <li>• High flexural modulus .</li> <li>• High thermal resistance .</li> <li>• Dimensional stability .</li> <li>• Reduced surface sink mark .</li> <li>• High creep resistance .</li> </ul>
	PP + EPDM (Hardness: from 45 shore A to 57 shore D)	<ul style="list-style-type: none"> <li>• Automotive parts</li> <li>• Other industrial parts</li> </ul>	<ul style="list-style-type: none"> <li>• Injection</li> <li>• Extrusion</li> <li>• Blow moulding</li> </ul>	<ul style="list-style-type: none"> <li>• High impact resistance .</li> <li>• Better flexibility .</li> </ul>



# PP Compound

This category has a wide range of application, such as automotive, sanitary, electrical parts, construction and housewares .

Resin base	Grade	Application	Process	Properties & Advantages
Polypropylene (Homopolymer, Copolymer)	PP+TALC From 10% to 50 %	<ul style="list-style-type: none"> <li>• Automotive industry</li> <li>• Electrical , Sanitary and construction parts</li> </ul>	<ul style="list-style-type: none"> <li>• Injection</li> </ul>	<ul style="list-style-type: none"> <li>• Higher flexural strength .</li> <li>• Dimensional stability .</li> <li>• Improved thermal resistance .</li> <li>• Lower shrinkage .</li> <li>• Process improvement .</li> <li>• Reduced surface sink mark .</li> </ul>
	PP+CC From 10% to 50 %	<ul style="list-style-type: none"> <li>• Housewares</li> <li>• Office furniture</li> </ul>	<ul style="list-style-type: none"> <li>• Extrusion</li> </ul>	



# PA Compound

**Polyamides** are used for home appliance, auto parts and other engineering plastic parts. We can produce these compounds based on virgin or recycled materials according to the customers' demands.

Resin Base	Grade	Application	Process	Properties & Advantages
Polyamide 6	PA6+GF	<ul style="list-style-type: none"> <li>• Automotive parts</li> <li>• Electrical parts</li> <li>• Other engineering plastic parts</li> </ul>	• Injection	<ul style="list-style-type: none"> <li>• High tensile strength .</li> <li>• High impact strength .</li> <li>• High flexural modulus .</li> <li>• Suitable abrasion resistance .</li> <li>• High thermal resistance .</li> </ul>
	PA6 - Toughened			
	PA6 - Supertough			
	PA6			
Polyamide 66	PA66 + GF	<ul style="list-style-type: none"> <li>• Automotive parts</li> <li>• Electrical parts</li> <li>• Other engineering plastic parts</li> </ul>	• Injection	<ul style="list-style-type: none"> <li>• High tensile strength .</li> <li>• High impact strength .</li> <li>• High flexural modulus .</li> <li>• Suitable abrasion resistance .</li> <li>• High thermal resistance .</li> </ul>
	PA66 - Toughened			
	PA66 - Supertough			
	PA66			



# ABS Compound

**Acrylonitrile Butadiene Styrene** is one of the most widely used polymers in the world for automotive, sanitary, electrical parts, construction and housewares. We can produce these compounds based on virgin or recycled materials according to the customers' demands.

Resin Base	Grade	Application	Process	Properties & Advantages
Acrylonitrile Butadiene Styrene	ABS			<ul style="list-style-type: none"> <li>• Good processing .</li> <li>• High strength .</li> <li>• Good impact strength .</li> <li>• Good electroplating capability .</li> </ul>
	ABS-FR	<ul style="list-style-type: none"> <li>• Automotive industry</li> <li>• Electrical parts</li> <li>• Electronic parts</li> <li>• Home Appliances</li> <li>• Refrigerator Parts</li> </ul>	<ul style="list-style-type: none"> <li>• Injection</li> <li>• Extrusion</li> </ul>	<ul style="list-style-type: none"> <li>• Good Flame retardancy .</li> <li>• Good processing .</li> <li>• Good impact strength .</li> <li>• Good electroplating capability.</li> <li>• Good glossy .</li> </ul>
	ABS + GF			<ul style="list-style-type: none"> <li>• Good processing .</li> <li>• High strength .</li> <li>• Good impact strength .</li> <li>• Better dimensional stability .</li> <li>• Good electroplating capability.</li> <li>• Good glossy .</li> </ul>
	ABS + CC From 10% to 50 %			<ul style="list-style-type: none"> <li>• Good processing .</li> <li>• High strength .</li> <li>• Cost reduction .</li> <li>• Better dimensional stability .</li> <li>• Good electroplating capability.</li> </ul>





Turkey

Turkmenistan

Azerbaijan

Russia

Uzbekistan

Romania





Iran



Iraq

Armenia

Kazakhstan

Georgia

Pakistan

Afghanistan

# PE Compound

**Polyethylene** filled or reinforced with various fillers, such as calcium carbonate, glass fiber for automotive, housewares, packaging and rotational parts. We can produce these compounds based on virgin or recycled materials according to the customers' demands.

Resin base	Grade	Application	Process	Properties & Advantages
Polyethylene	PE-Powder	<ul style="list-style-type: none"> <li>• Water tanks</li> <li>• Other rotational parts</li> </ul>	<ul style="list-style-type: none"> <li>• Rotational moulding</li> </ul>	<ul style="list-style-type: none"> <li>• Well-dispersed color masterbatch in polymer base.</li> <li>• Protection against UV-radiation.</li> <li>• Dimensional stability.</li> <li>• Good mechanical properties.</li> </ul>
	PE + GF	<ul style="list-style-type: none"> <li>• Automotive parts</li> </ul>	<ul style="list-style-type: none"> <li>• Injection</li> </ul>	<ul style="list-style-type: none"> <li>• High strength.</li> </ul>
	PE + CC From 10% to 50%	<ul style="list-style-type: none"> <li>• Automotive parts</li> <li>• Housewares</li> <li>• Packaging</li> <li>• Shopping bag</li> </ul>	<ul style="list-style-type: none"> <li>• Injection</li> <li>• Extrusion</li> <li>• Thermoforming</li> <li>• Blow molding</li> </ul>	<ul style="list-style-type: none"> <li>• Good tear resistance in films.</li> <li>• Reduction of sink mark and better dimensional stability in injection parts.</li> <li>• Improvement of process ability and printability in films.</li> </ul>



**Alloys** are a blend of different polymers with improved properties for automotive, housewares, irrigation pipes and special applications. We can produce these compounds based on virgin or recycled materials according to the customers' demands.

Resin base	Grade	Application	Process	Properties & Advantages
Polyamide + Polypropylene	PA-PP-GF		•Injection	<ul style="list-style-type: none"> <li>• Good mechanical properties .</li> <li>• Good temperature stability .</li> <li>• Lower moisture absorption .</li> <li>• Economical .</li> </ul>
	PA-PP			
Polycarbonate + Acrylonitrile Butadiene Styrene	PC-ABS	<ul style="list-style-type: none"> <li>• Automotive</li> <li>• Housewares</li> </ul>	•Injection	<ul style="list-style-type: none"> <li>• Good processability .</li> <li>• Good scratch resistance .</li> <li>• Excellent impact strength .</li> <li>• Good dimensional stability .</li> <li>• Economical .</li> </ul>
Polyethylene + Polypropylene	PP-PE	<ul style="list-style-type: none"> <li>• Electrical parts and Other industrial parts</li> </ul>	<ul style="list-style-type: none"> <li>• Injection</li> <li>• Extrusion</li> </ul>	<ul style="list-style-type: none"> <li>• Economical .</li> <li>• Good mechanical properties .</li> </ul>
Polypropylene	PP-Alloy		•Extrusion	<ul style="list-style-type: none"> <li>• Good processability .</li> <li>• Good mechanical properties</li> <li>• Economical .</li> </ul>
	PP-PIPE	• Silent pipe	•Extrusion	<ul style="list-style-type: none"> <li>• High mechanical properties .</li> <li>• Soundproof .</li> </ul>
Polyethylene	PE40-PIPE	• Soft irrigation pipe	•Extrusion	<ul style="list-style-type: none"> <li>• Excellent environmental stress cracking resistance according to the ISIRI 7607 and ISO 8779 standard .</li> </ul>
	GM-100	• Geomembrane	<ul style="list-style-type: none"> <li>• Extrusion</li> <li>• Sheet extrusion</li> </ul>	<ul style="list-style-type: none"> <li>• High tensile modulus .</li> <li>• UV-radiation resistance .</li> <li>• Resistant to thermal degradation according to GRI-GM13 Standard specification .</li> </ul>



Bio-based and biodegradable compounds for disposable containers and packaging .

Resin Base	Grade	Application	Process	Properties & Advantages
Polypropylene + starch	Bio-based	<ul style="list-style-type: none"> <li>• Disposable food containers</li> <li>• Disposable cutlery</li> </ul>	<ul style="list-style-type: none"> <li>• Injection</li> <li>• Thermoforming</li> </ul>	<ul style="list-style-type: none"> <li>• Eco-friendly product .</li> <li>• High tensile strength .</li> <li>• High flexural modulus in injection and thermoforming parts .</li> </ul>
Polyactic Acid + starch	Biodegradable	<ul style="list-style-type: none"> <li>• Shopping bag</li> <li>• Garbage bag</li> <li>• Disposable tablecloth</li> </ul>	<ul style="list-style-type: none"> <li>• Blown film</li> </ul>	<ul style="list-style-type: none"> <li>• Better dimensional stability in injection parts .</li> <li>• Good tear resistance in films .</li> <li>• Food contact approval .</li> </ul>



**Polyolefins** filled with calcium carbonate for film, shopping bag, garbage bag, woven bag, sanitary product and garden furniture.

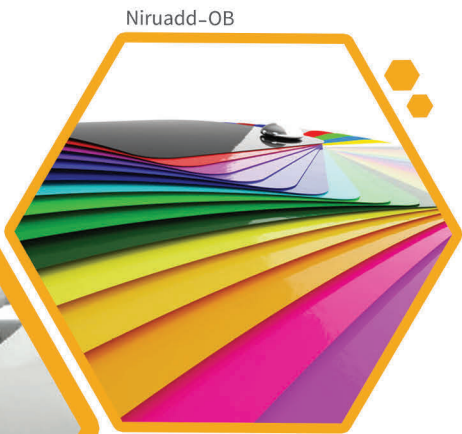
Resin Base	Grade	Application	Process	Properties & Advantages
High density polyethylene	HD20	<ul style="list-style-type: none"> <li>• Shopping bag</li> <li>• Garbage bag</li> <li>• Disposable tablecloth</li> <li>• Blown products</li> </ul>	<ul style="list-style-type: none"> <li>• Film blowing</li> </ul>	<ul style="list-style-type: none"> <li>• Including 70% to 80% calcium carbonate. (could be considered as an eco-friendly product)</li> <li>• Reduction of cost.</li> <li>• Process improvement.</li> <li>• Excellent dispersion of filler in the matrix.</li> <li>• Good tear resistance in films and mono-filament fibers.</li> <li>• Reduction of sink mark and better dimensional stability in injection parts.</li> <li>• Improvement of processability and printability.</li> </ul>
Low linear density polyethylene	LLD10	<ul style="list-style-type: none"> <li>• Shopping bag</li> <li>• Garbage bag</li> <li>• Packaging</li> <li>• Blown products</li> </ul>	<ul style="list-style-type: none"> <li>• Blow molding</li> </ul>	
Low density polyethylene	LD60	<ul style="list-style-type: none"> <li>• Injection parts</li> </ul>	<ul style="list-style-type: none"> <li>• Injection</li> </ul>	
Polypropylene	H20	<ul style="list-style-type: none"> <li>• Profile extrusion</li> <li>• Sheet extrusion</li> <li>• Other extruded parts</li> </ul>	<ul style="list-style-type: none"> <li>• Extrusion</li> </ul>	
	H50	<ul style="list-style-type: none"> <li>• Sanitary production</li> <li>• Injection parts</li> <li>• Garden furniture</li> </ul>	<ul style="list-style-type: none"> <li>• Injection</li> </ul>	
	Raffia	<ul style="list-style-type: none"> <li>• Fibres</li> </ul>	<ul style="list-style-type: none"> <li>• Film casting</li> </ul>	
Polyolefin	Raffia E	<ul style="list-style-type: none"> <li>• Woven bags</li> </ul>	<ul style="list-style-type: none"> <li>• Fiber spinning</li> </ul>	



# Additives

**Additives** can be used in polymers in order to improve their properties , process conditions and performances .

Resin base	Grade	Application	Process	Properties & Advantages
Polyethylene	White masterbatch <small>From 20% to 70% white pigment</small>	<ul style="list-style-type: none"> <li>Housewares</li> <li>Packaging</li> <li>Construction and sanitary parts</li> <li>Other plastic parts</li> </ul>	<ul style="list-style-type: none"> <li>Injection</li> <li>Extrusion</li> <li>Thermoforming</li> <li>Blown film</li> <li>Cast film</li> </ul>	<ul style="list-style-type: none"> <li>Improve whiteness of product .</li> <li>Excellent dispersion in polymer base .</li> <li>High coverage .</li> <li>Providing glossy surface .</li> </ul>
	Anti-block			<ul style="list-style-type: none"> <li>Preventing from sticking two layers .</li> </ul>
	Slip-agent			<ul style="list-style-type: none"> <li>Reduce friction between layers .</li> </ul>
	Optical brightener			<ul style="list-style-type: none"> <li>Enhancing the brightness of products .</li> </ul>
	Black masterbatch	<ul style="list-style-type: none"> <li>Housewares</li> <li>Packaging</li> </ul>		<ul style="list-style-type: none"> <li>Containing 40% carbon black .</li> <li>Excellent dispersion in polymer base .</li> <li>Create protectivity against UV light .</li> </ul>
	Antioxidant	<ul style="list-style-type: none"> <li>Automotive parts</li> <li>Pipes</li> </ul>		<ul style="list-style-type: none"> <li>Protection against thermal oxidative degradation .</li> </ul>
	UV Absorber			<ul style="list-style-type: none"> <li>Protection against UV-radiation .</li> </ul>
Polypropylene	Flame retardant	<ul style="list-style-type: none"> <li>Housewares</li> <li>Electrical parts</li> <li>Construction parts</li> </ul>	<ul style="list-style-type: none"> <li>Injection</li> <li>Extrusion</li> </ul>	<ul style="list-style-type: none"> <li>Create resistance to ignition .</li> </ul>



**Nirumand Polymer Laboratory** is certified to the ISO 17025 standard from national certification organization. Relying on the capabilities of technical experts and equipped facilities, this laboratory is able to accurately control raw materials and products in accordance with defined control program and is also ready to provide various laboratory services to craftsmen, researchers and students. Nirumand Polymer laboratory, using experienced staff and appropriate laboratory equipment is ready to provide free consulting services in performing physical and mechanical tests on polymeric materials and analyzing the results for our customers.

General properties	
Test Description	Method
MFI	ASTM D1238
Viscosity	ASTM D1986
Filler Content	ISO 3451/1
Moisture Content	ASTM D570
Shrinkage	ASTM D955
Density	ISO 1183
Flash Point	ASTM D92

Thermal Tests	
Test Description	Method
DSC	ISO 11357
OIT	ISO 11357
HDT	ASTM D648
VICAT	ASTM D1525

Mechanical Tests	
Test Description	Method
Tensile Strength	ISO 527
Elongation	ISO 527
Flexural Modulus	ASTM D790
Impact Strength IZOD	ISO 180
Impact Strength Charpy	ISO 179
Hardness Shore A / D	ASTM D2240

Optical Properties & Flammability	
Test Description	Method
Colorimetry (L,A,B,YI)	ASTM E313
Flammability	UL 94

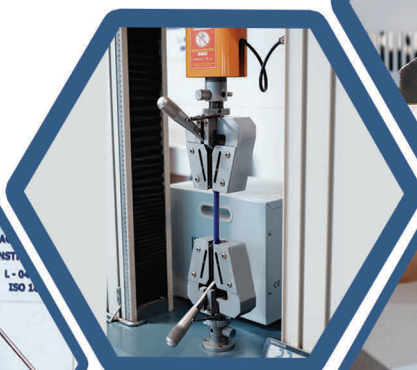
Viscometry



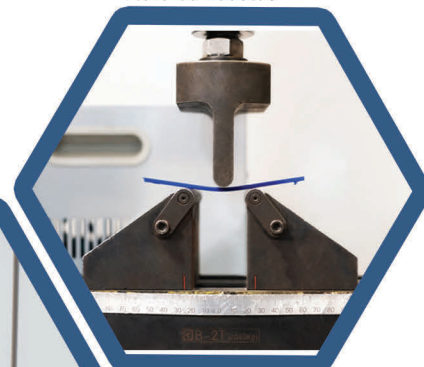
Impact



Tensile strength



Flexural modulus



Differential scanning calorimetry





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